

ABSTRACT OF THE DISCLOSURE

Nitrided valve metals are described, such as nitrided tantalum and nitrided niobium. The nitrided valve metals preferably have improved flow properties, higher Scott Densities, and/or
5 improved pore size distribution which leads to improved physical properties of the valve metal and improved electrical properties once the valve metal is formed into a capacitor anode. Processes for preparing a nitrided valve metal are further described and involve nitriding the valve metal at a sufficient temperature and pressure during a heat treatment that is prior to the deoxidation step. Capacitor anodes and other products incorporating the valve metals of the present invention are
10 further described.